NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) **WFO Jackson, Mississippi**
MONTHLY REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH: **July** YEAR: **2013**
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283	SIGNATURE **Alan E. Gerard, Meteorologist In-Charge** DATE **08/13/2013**

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

X **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

Synopsis...

Temperatures for the month of July were unseasonably cool across the Hydrologic Service Area (HSA). Mean monthly temperatures at ASOS sites ranged from 1.5 degrees below normal at Jackson and Meridian to 2.4 degrees below normal at Greenwood. Rainfall for the month was below normal for most of the area. The driest areas were across Southeast Arkansas, northern most parishes of Northeast Louisiana, and from the Yazoo Delta southeast to Central Mississippi. The wettest locations in the HSA were in the parishes and counties along the Mississippi River south of Vicksburg and also a region from Vicksburg to Southeast Mississippi. Average monthly rainfall at ASOS sites ranged from 2.12 inches below normal at Jackson to 2.82 inches above normal at Vicksburg/Tallulah.

A cold front moved across the HSA during the last part of June. This was caused by a deep upper trough retrograding westward across the region during the first four to five days of the month. This upper level trough brought cooler than normal temperatures to the region and isolated to scattered light showers to mainly east and southeastern portions of Mississippi. By the 5th, the influence of the upper level trough had lessened and the subtropical high began to shift the moisture plume westward from the Eastern Gulf States, where it had been parked for quite some time. Scattered heavy showers occurred across all but the most western sections of the HSA through the 6th. The heaviest rainfall occurred on the evening of the 5th in Columbus, Mississippi where an Urban and Small Stream flood warning was issued due to heavy rainfall in excess of 5.00 inches. More than 40 roads in the city and some Lowndes County roads were inundated. From the 7th through the 10th, upper level ridging and southeasterly flow around the surface subtropical high continued to bring warm, moist air to the HSA. Isolated to scattered shower broke out across most of the area with the exception of northern portions of Northeast Louisiana, Southeast Arkansas, and portions of the Yazoo Delta where little to no rainfall was observed.

Another summer frontal system moved across the region from the 11th through

the 12th. Widespread rainfall amounts from 0.25 to 4.00 inches were reported across Central, East, and portions of South Mississippi and Northeast Louisiana. The remainder of the region only had scattered rainfall amounts of an inch or less. St. Joseph in Northeast Louisiana had 3.65 inches of rainfall. The front brought somewhat cooler conditions and lower humidity to the HSA.

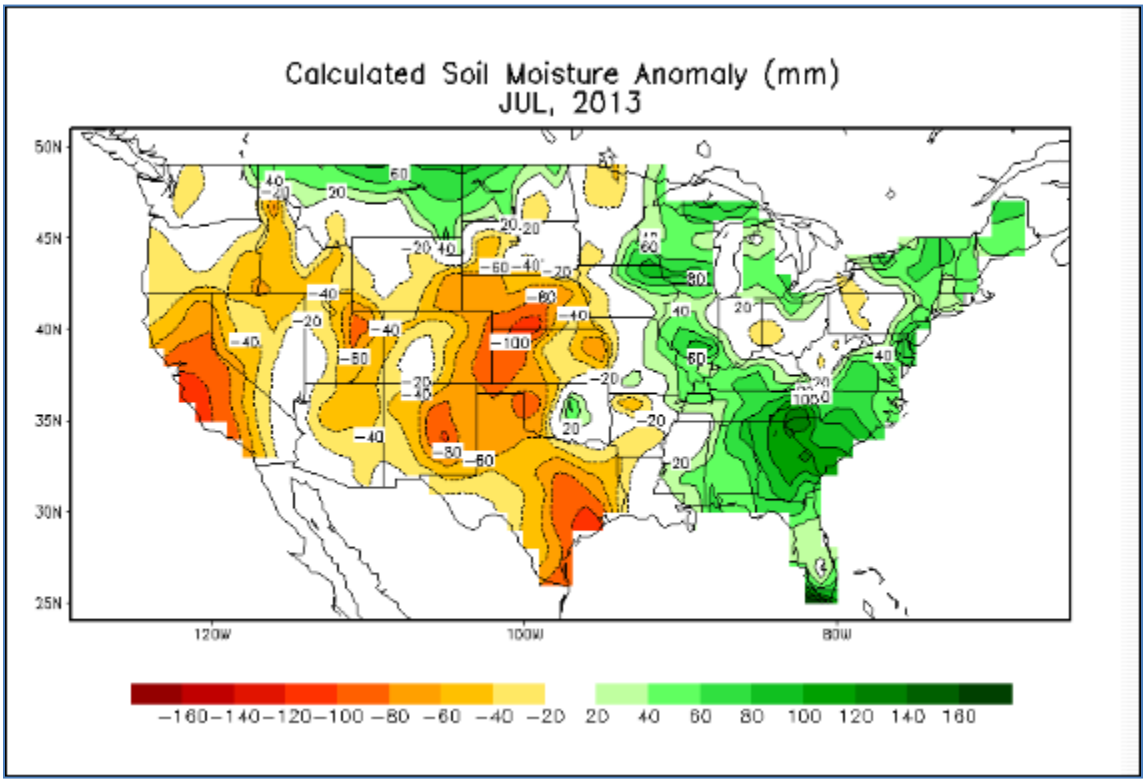
High pressure began pushing into the region by the 13th and was firmly entrenched over the Lower Mississippi Valley by the 18th. High pressure continued to control the weather through the 21st. Scattered showers and thundershowers were common each afternoon during this period. A upper level ridge, in place for several days, intensified across the western states on the 22nd producing a trough across the Southeast United States. Upper level impulses moving with the northwesterly flow produced scattered showers and thunderstorms through the 24th, with some areas receiving 1.00 to 2.00 inches of rainfall.

By the morning of the 25th, a frontal system began moving through the region bringing somewhat drier air behind it. It moved to southern portions of the HSA by the 26th. Very little rainfall occurred with this system.

By the morning of the 27th, a mesoscale convective system (MCS) was pushing southeastward with the northwest flow out of Arkansas and Northwest Louisiana. This system moved across the HSA throughout the day bringing 1.00 to 3.00 inches to much of the area. Northeast portions of Mississippi within the HSA received less than 0.50 inch of rainfall. An upper level ridge began building across the area on the 28th and remained in place through the end of the month. Only isolated light showers were reported across the HSA through the period.

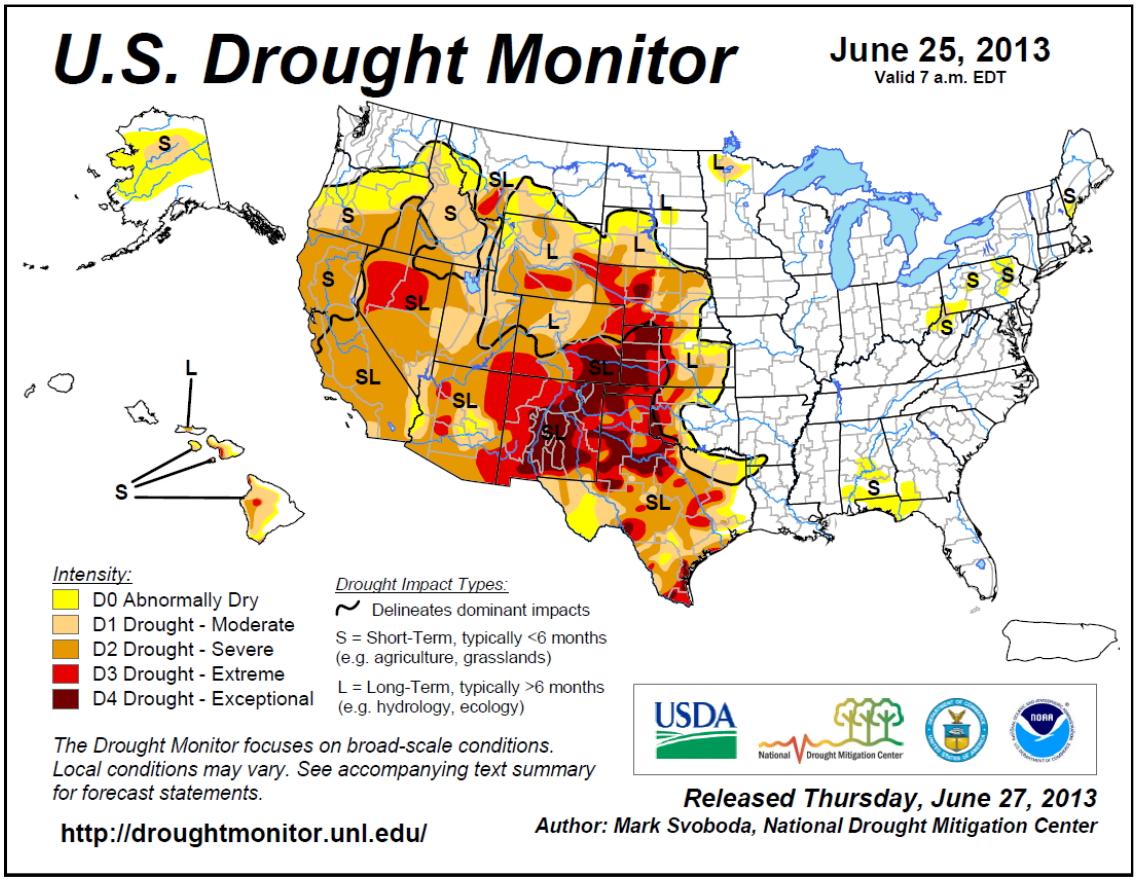
River and Soil Conditions...

Soil Moisture Map:

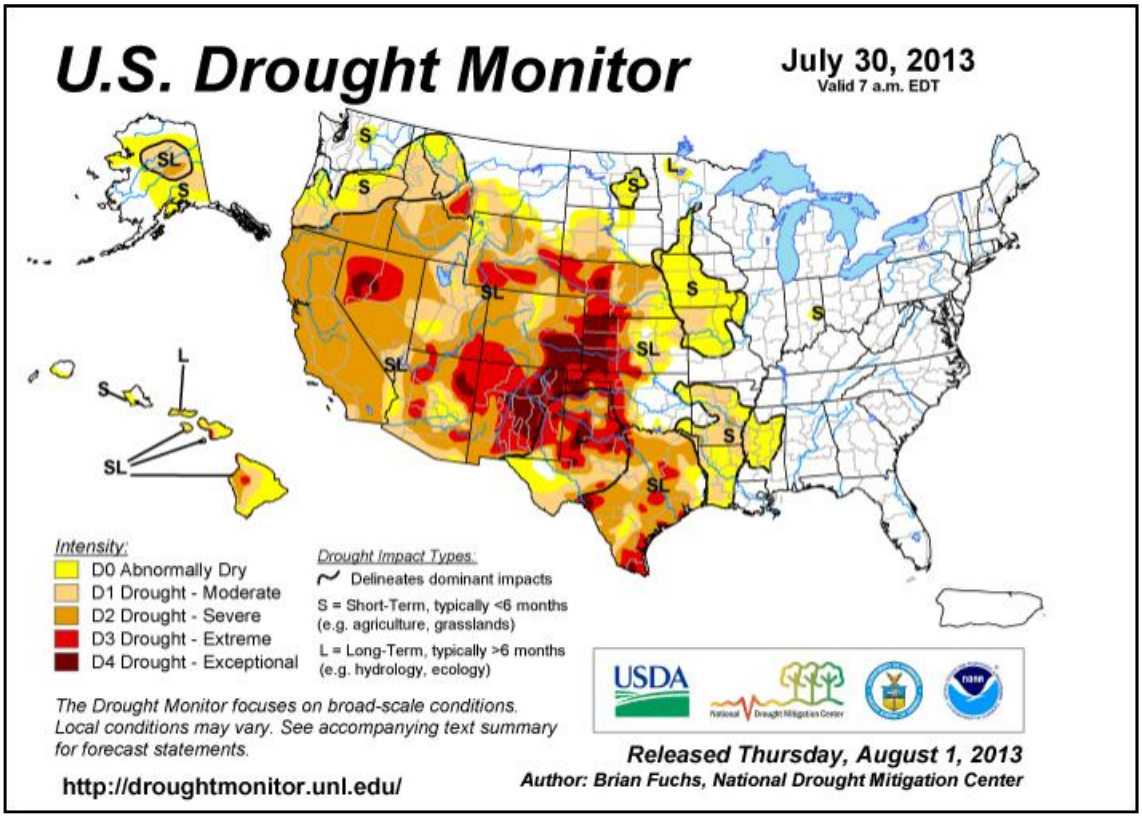


July 2013

Drought Comparison to prior month:



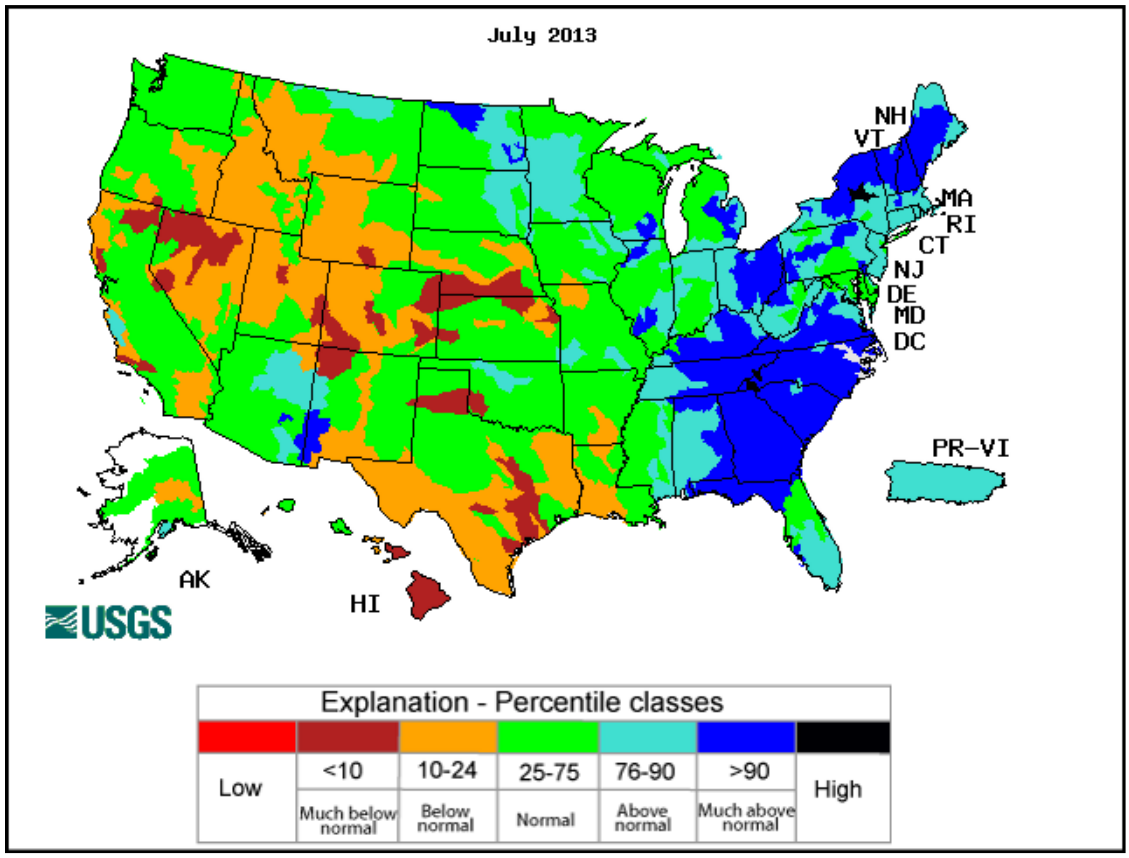
June 25, 2013



July 30, 2013

Streamflow:

The United States Geological Survey's (USGS) July 2013 river streamflow records were compared with all historical July streamflow records. Streamflow was above normal across much of the Pascagoula and Tombigbee River Systems and below normal across Southeast Arkansas and much of Northeast Louisiana. Streamflow was near normal across the Pearl, Big Black, Homochitto, and portions of the Yazoo River System.



July 2013

River Conditions and flood potential:

July is the first month in quite some time that did not experience river flooding at forecast point locations. Only minor rises were observed on rivers in the HSA.

The Mississippi River from Arkansas City to Natchez had a minor rise from the 8th until the 23rd of the month.

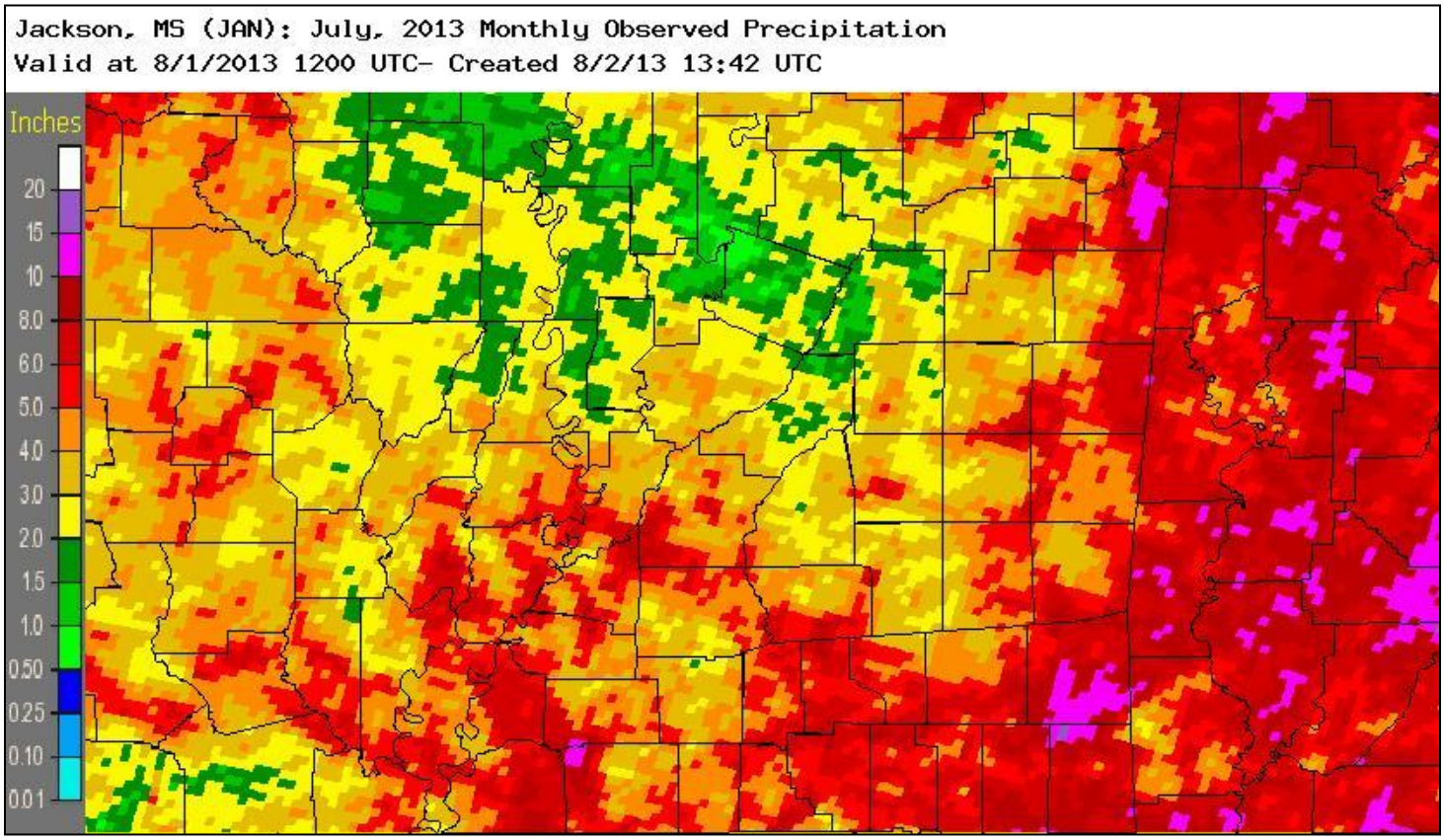
The climatic outlook for the next 3 months shows above normal temperatures along and west of the Mississippi River while there are equal chances of above or below normal temperatures elsewhere. Eastern portions of Mississippi will have above normal rainfall while the remainder of the area has equal chances of below or above normal rainfall.

Based on current soil moisture, streamflow, and the 3 month weather outlook, flood potentials are as follows:

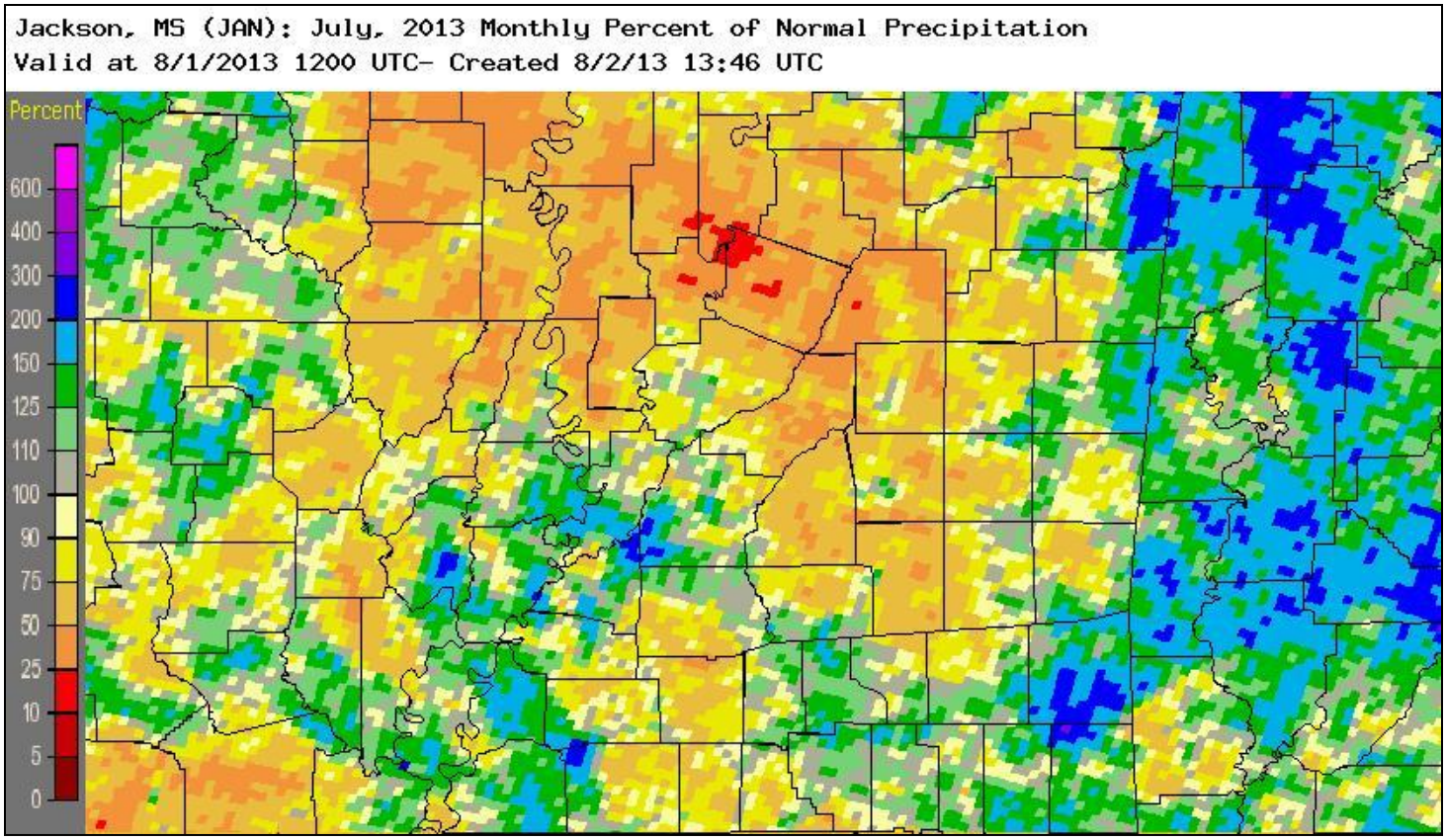
***Pearl River System*:**	**Average.**
***Yazoo River System*:**	**Average.**
***Big Black River System*:**	**Average.**
***Homochitto River System*:**	**Average.**
***Pascagoula River System*:**	**Average.**
***Northeast LA and Southeast AR*:**	**Average.**
***Tombigbee River System*:**	**Average.**
Mississippi River:	**Average.**

Rainfall for the month of July:

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on June 30th until 7 am on July 31st were: 9.70 inches of rainfall at Columbus, MS; 8.34 inches at Shubuta, MS; 7.63 inches at St. Joseph, LA; 7.44 inches at Pat Harrison Waterway's Dry Creek Water Park, MS; 7.09 inches at Sumrall, MS; 6.89 inches at Hattiesburg, MS; 6.07 inches at Meadville 5SSE, MS; and 6.03 inches at Topton, MS.



July 2013 Rainfall Estimates



July 2013 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

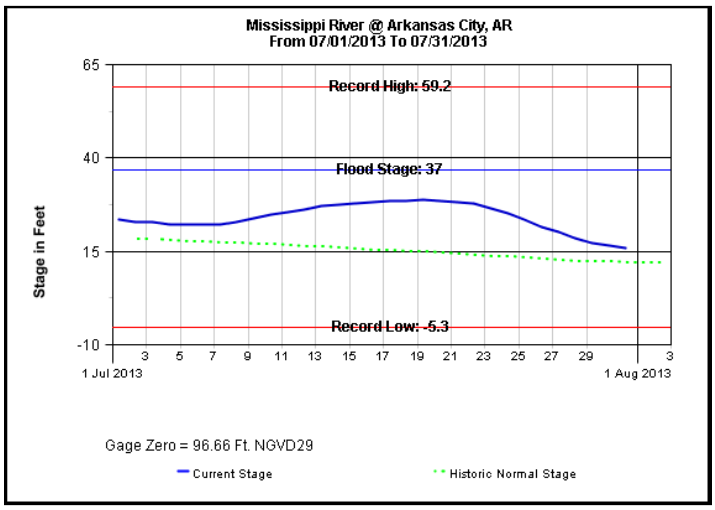
July rainfall for Selected Cities...

City (Airport)	July Rainfall	Departure from normal	2013 Rainfall	2013 Departure from Normal
Jackson, MS	2.69	-2.12	40.73	+7.69
Meridian, MS	4.61	-0.53	45.83	+10.86
Greenwood, MS	2.27	-1.33	35.72	+4.48
Greenville, MS	1.99	-1.81	28.20	-3.90
Hattiesburg, MS	5.85	+0.46	48.14	+10.71
Vicksburg, MS	6.45	+2.82	47.10	+14.18

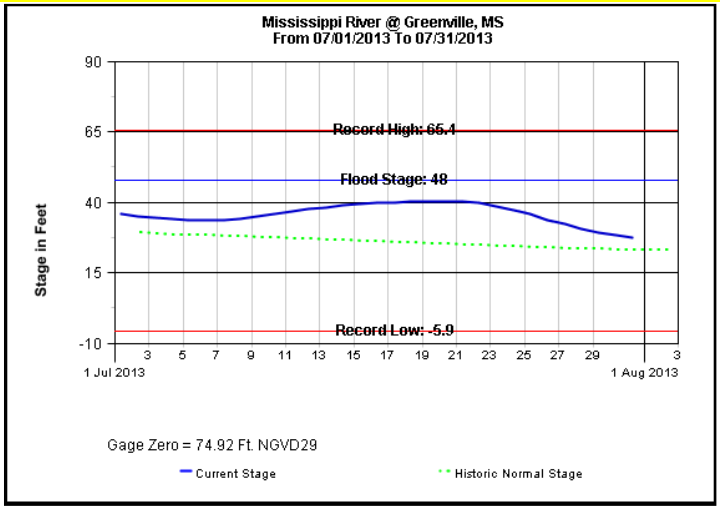
Mississippi River...

Mississippi River Plots for July, 2013

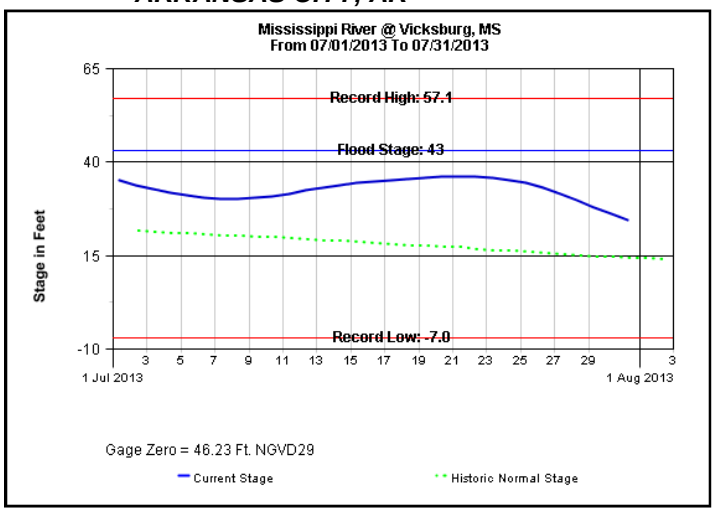
Plots Courtesy of the United States Army Corps of Engineers



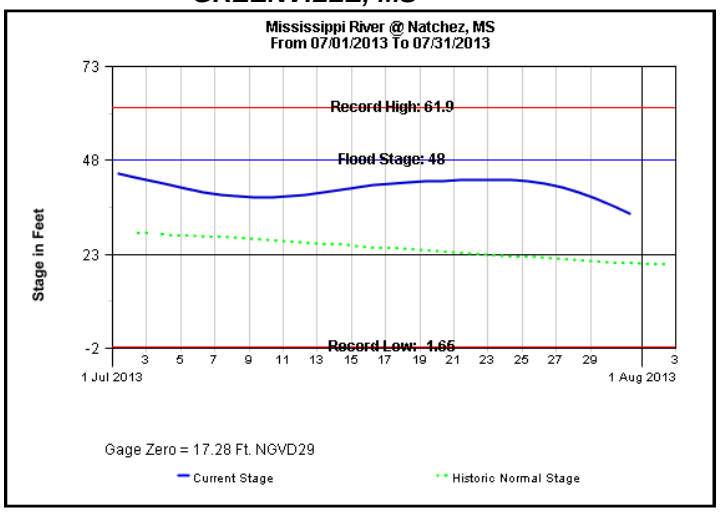
ARKANSAS CITY, AR



GREENVILLE, MS



VICKSBURG, MS



NATCHEZ, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	28.72	07/19/13	15.77	07/31/13
Greenville, MS	48	40.36	07/19/13	27.04	07/31/13
Vicksburg, MS	43	36.19	07/21/13	23.70	07/31/13
Natchez, MS	48	44.75	07/01/13	32.97	07/31/13

Total Flood Warning products issued: 0
Total Flood Statement products issued: 0
Total Flood Advisories MS River : 0
Daily Climate and Ag WX Products (AGO'S) issued: 31
Daily CoCoRaHS Rainfall Products (LCO'S) issued: 31
Daily River and Lake Summary Products (RVD'S) issued: 31

Marty V. Pope
Service Hydrologist &
Latrice Maxie
Assistant Hydrologist/Observing Program Leader (OPL)

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District